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ABSTRACT

Some of the critical aspects of the relationship between the university and the world of work in developing nations are discussed with a focus on Brazil. The role of higher education in a fast developing society is examined. Phenomena concerning higher education that are universal and constant include population growth, increasing complexity of social heritage, increased rate of change, and intensification of communications. Higher education in Brazil today deals with several specific issues as follows: increasing demand; exclusiveness; quality; resources; and administrative control and centralization. Brazilian society suffers from a distorted surplus of academic titles with no productive function. The state and federal governments have tried to change this by promoting technical courses, but they have not been very effective, and thus, universities are still far from the world of work. It is concluded that universities have been inflexible and distant from real community needs, the patterns used for training teachers do not meet the needs of the world of work, and educational models in developing countries do not respond to the culture in which the schools are placed. Strategies for remedying this problem include: orderly growth and dissemination of schools; support of technical schools; strengthening the relationship between university and society; better teacher preparation; and efforts to abolish the barrier between the university and the world of work. (SM)

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The World of Work in Developing Nations – a Challenge to the University

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1. INTRODUCTION

The world of developing nations presents immence challenges to all social sectors. Perhaps, the greatest of all is social change itself, a result of the interaction between society and the world of work. And, from all social sectors, the most affected are, no doubt, the schools.

Some school structures though, such as elementary and secondary schools, demonstrate more malleability and promptness in responding to these challenges. Other levels, however, such as the universities are more rigid and, besides offering a greater resistence to change, usually their reaction is delayed.

This paper deals with some critical aspects of the relationship "University – – world of work" in the specific context of fast developing nations.

2. THE ROLE OF HIGHER EDUCATION IN A FAST DEVELOPING SOCIETY

Where does higher education stand to-day?

Can one speak of higher education independently, of limiting it to realities such as the political society in which universities exist? We can affirm, without letting apart different contexts, that the growing phenomenon of the "global village", leads, inevitably, to uniform patterns. In a broad sense, some phenomena concerning higher education are universal and constant. Some are so obvious that they could not even be mentioned but we shall do so just to state some guidelines of this study. They are: populational growth, increasing complexity of social heritage, speeding of the rate of change, intensification of communications.

Regarding population growth the consequences for education are not only that more schools are needed but they are needed longer. This is a problem, demonstraded by statistics, all around the world.

James Perkins has provided some interesting comments:

> "... In the whole world the greatest increase in absolute numbers of students occurs in elementary and secondary levels. On the other side, in percentage, the greatest increase is in higher education. Even though data change from country to country, we can say, without fear of being mistaken, that the number of students enrolled in higher education was doubled between 1960 and 1970. One can also foresee, no doubt, that enrolment in this level, already excessive shall be doubled in the next decade. [1] Even if it were the only problem to be solved, such an extraordinary growth would exert, in itself, an almost unbearable pressure on the greater part of higher level schools of almost all countries." [2]

[1] The work of Perkins from which we quote was written before 1974.
[2] PERKINS, J. A. – As Cinco Crises da Universidade. In PIAGET, J. et alii – Educar para o Futuro. Rio, Fundação Getúlio Vargas, 1974. P. 35-36. (Translated by the author.)

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Another factor pointed out as a trait of higher education today is the growing complexity of social heritage. Poor social culture, such as among the primitives, is easily shared. Everyone does, knows, has and needs the same basic things. Learning is plain in its means and ends. However, as culture is enriched, needs differ and higher levels of education are an outcome of such a fact. The fact that a cultural increase in complexity is neither linear nor equal may also be stressed. Culture is enriched while the environment presents challenge to men and they, with their responses, change the environment. The following diagram could illustrate this.

challenge → research → results = change
↓
new challenge

The rate of speed or the rythm of change is also important. Due to technology the distance between discoveries and practical utilization can be sensibly reduced.

And, last, but not least, the problem of communication, mainly in its systematic process – teaching and learning, plays a significant role. This stands also for higher education. In fact, if we use the same frame of reference – change as an outcome of research and a producer of needs – another aspect of higher education is found. New performances are expected and higher education will have to cope with this. Besides, training for activities and jobs that already exist will have to be renewed or reformulated, since these activities have become more complex. Let us mention Business Administration, just as an example.

Other aspects are seen at once.

As something planned and even predicted, in its structural aspect, higher education is an output, a result of a system already settled. Traditional curricula, programs, methods known and managed by previous experience are assembled according to selected traditional values. Therefore, it shows a tendency to continuism. On the other hand, acceleration of social change is increased and offers new hardware and software to teaching.

And here is a crisis, for, university or higher education teaching and changes at the same time. In fact, some times we have to use sophisticated equipment whose operation we still have not mastered completely. Or, which is even more serious, we have not yet criticized or weighed its convenience in the philosophical sense. Things are neither criticized nor chosen; they are used. This distorted pragmatism empties teaching, deprives it of its greatest source of food – research.

To do and to communicate, this is the dramatic thrust of higher education.

Are its social agencies – universities – playing their role to satisfaction?

2.1. What are Universities?

As a partial outcome of the Crusades, commercial competition between East and West, the Universities were born in the Middle Ages.

"The universities were undoubtedly one of the most significant creactions of the medieval world. Their graduates helped to shape its thought, to create a model of intellectual discipline, to lay the foundations for a scientific culture, to interpret its laws and its customs and to administer its governments. The universities were themselves a haphazard but natural outcrop of twelfth-century society. Life was at that time more peaceful and prosperous than it had formerly been. The onslaught of the barbarian invasions was at an end. Incipient industrialism and expanding commerce enriched the towns. As a result of the Hildebrandine revival in the church there was a growing demand for an educated clergy; the church needed canon lawyers and theologians to define and to expound its teaching and to support its authority with intellectual arguments. There had been a growth in literacy among cleargy and laymen which enabled them to make wider use of written documents and to take responsability in the increasingly sophisticated pattern of governmental administration both in England and on the Continent. Side by side with this there was a genuine thirst for knowledge and an expansion of learning, stimulated by the cultivated intellectual life of Islamic Spain which drew visiting scholars from ewery European country, and by the revived interest in Europe in Roman law, all of which promoted the foundation of schools where reputed teachers held forth to small groups of scholars."[3]

As beacon for knowledge it attracted those eager for learning as an enchanted kingdom and bestowed magic powers to them. Not only teaching and learning, but professions were intertwined in the Medieval University – "Universitas Magistrorum et Scholarium".

What has become of universities today?

If in the Middle Ages they reached the peak of prestige and splendor; in our times, though part of the prestige and almost the whole of splendor were lost, they play a meaningful and significant role. They exist in an entirely new sense. Repudiated for a long time, accused of cultural superfluity denied as a successful professional training agency, accused of being exclusive, the Universities emerges in technological societies as absolutely neccessary.

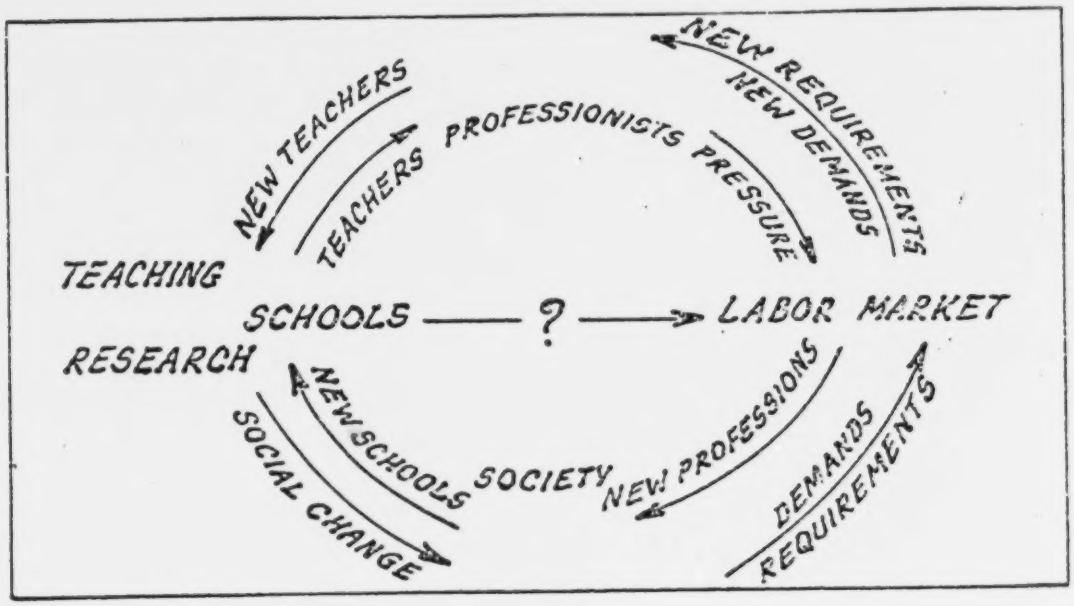
Universities, in fact, are culturally and sociologically stable. Notwithstanding, being stable does not mean they are the same. One speaks of Open University, Technological University, Permanent University, and so on. How can one identify it? Any social institution can be defined by its aims or the purpose it serves.

According to Whitehead, Universities are schools of teaching and research and their main function is to provide a connexion between knowledge and imagination. In other words they link all the innovative spirit of youth to cultural tradition[4].

However, around a clear thought such as the one expressed by Whitehead, there is not an agreement. Inevitably Universities are challenged to respond to constant new stimuli. Research, teaching, professional training are some of the challenges presented to them.

[3] *GREEN, V. H. H. – The Universities. Great Britain, Penguin Books, 1969. P. 7*
[4] *See WHITEHEAD, A. D. – Os Fins da Educação. São Paulo, Editora Nacional, 1969. P. 101-102*

It is enough to say that it is not unusual to find in the same institution teaching and research standing in opposite fields. And even more, teaching, research and professional training collide in their aims not only in the theoretical field, in planning, but also in school management and practice. The discussion about the true aims of universities, or higher education, could be diagramed as follows



Some brief comments:

Universities should deliver to society good professionists and society must make its demands, regarding the labor market, explicit to schools.

But it is not fair to limit the function of Universities to supplying the labor market. This would lead to a progressive impoverishment, since without research no innovation can be brought into action.

Teaching and research should act together, feeding society with their outputs and receiving inputs in a feedback system.

If the above comments are true then they may be valid for a model, but things do not function in perfect harmony in different cultures or societies. In developing nations, for instance, some irregularities may be found. Higher education many times may be called upon to fulfill social demands that are unusual in developed nations, such as to train teachers to fight illiteracy or teach basic subjects realted to health care. On the other hand, developing nations frequently may present a model of a university highly sophisticated, reflecting exclusive educational patterns which were imposed upon the colonies by the culturally refined societies that colonized them.

In this paper we shall try to briefly describe and discuss some problems of higher education in Brazil.

3. HIGHER EDUCATION IN BRAZIL – HERITAGE OR CONQUEST?

3.1. Cultural roots

In Europe, the span of time between XVth and XVIIIth centuries bears witness to some interesting populational movements. On one side maritime caravans left Europe to bring back riches, not only in concrete treasures, but also by opening new commercial fronts. On another side, chosen cultural "elites", either political or religious, with definite aims of settlement also permanently left their countries.

Obviously, cultural outcomes of these different movements were also very distinct. And education, from all fields, was the most affected.

To exploit a territory as a trading post is quite a different matter than to build permanent settlements for educated groups. (As an example of the latter we can mention the fact that, leaving England for North America, each group of forty families should bring along a teacher for their youth, or the Old Deluder Satan Act in which education is considered a weapon against heresy in Massachussetts, in the XVIIIth century.[5]) The intent here is not to render a full historical description of what happened in Brazil. However, an analysis of social facts cannot be effective if dissociated from their cultural roots, therefore let us have a glimpse of the origins of higher education in Brazil.

Schools, as well as other social institutions in colonized countries, can be directly related to basic patterns of colonization. And, in Brazil such patterns were those of the great landowners. As a matter of fact the ownership of great extensions of land was a political resource against plundering. The Portuguese kings tried to face many challenges. One was the extension of the territory that made the system of one General Governor impossible. Another were pirates who visited Brazil, and even other nations such as France and Holland, that tried to establish their own colonies, invading the territory. Distributing land with the condition of permanent settling seemed a good way of exploiting riches and facing plundering and invasions at the same time. From this two neatly differentiated social classes emerged. One, that of the great landowners, was a rural aristocracy trying to impose in Brazil a European style of life. On the other extremity was a social class whose main, or only concern, was survival.

Education did not take long to respond to such a state of affairs. A system with schools for a leisure class and another with work and trades for the poor or labor class was developed.

The trade mark of Brazilian education, which followed the Portuguese invasion of the land (optimistically called "discovery"), was represented by the Jesuit Fathers. The establishing of "colleges", which tried to copy the well known ones which the Fathers had in Europe, were the essence of Brazilian education in

[5] See EBY, F – The Development of Modern Education. New York, Prentice-Hall, Inc., 1953.

colonial times. In 1592, (the Jesuits arrived in Brazil in 1549, the land having been discovered in 1500) Father Marçal Beliante wrote the King of Portugal asking for permission to establish a University. The first University was established in 1920. But these four centuries were not a void in higher education. The very colleges managed by the Jesuit attained a very high level of teaching. Some, such as the one in Bahia, were accredited and gained access to renown universities, Coimbra for one. However, the name "University", as well as printing or other intellectual activities that could lead to subversion and to independency, was forbidden.

The XVIIIth century brought the Enlightment and the Jesuits were expelled from Brazil. The dominating character in this movement was a Portuguese minister, the Marquis of Pombal, who was the strongest enemy of the Fathers and was responsible for some strong laws regarding education." The Jesuit colleges would be substituted by the "royal classes", free courses sponsored by the government with a modern curriculum and teaching method. There was only one interesting point: the Jesuits were out of Brazil in 1759 and the first "royal class" in Brazil started fourteen years later.

Notwithstanding, this neglect, or even intention, by the Portuguese kingdom of not providing the colony with higher education came abruptly to an end with the Napoleonic wars. The king came to Brazil and established the capital of the kingdom. Of course, education was affected and Brazil had almost at once a Law School, Medical Schools, Military Academy, Naval Academy, Museums, Art Schools, the National Library, and printing.

But, though following the liberal model of the Enlightment, higher education in Brazil would be, almost till our days, something transplanted, ignoring the real needs of society. Even when trying to up-date or modernize its structures, what we had was a shifting of patterns: from the franco-german to the North American. A sign of this was the pedagogical movement of 1920-1930. But innovations reached the elementary and secondary schools more promptly, not universities. Changes in curricula, methods, and aims occured but the basic higher education pattern remained unchanged. Second World War and its worldwide consequences reached Brazil and made their mark, in addition to the historical factors, shaping it to the present decade.

Let us summarize these characteristics.

3.2. Higher Education in Brazil today – Main Issues

Higher education throughout the world is going through a crisis and, to a certain extent, its problems are universal. However, in Brazil some specific issues are found. Some of them are more stringent due to the process of fast or irregular development that happened in Brazil during the last few decades.

The most significant are:

– increasing demand

With a population of 135 million inhabitants, of which over 40% are under twenty years of age, it is easy to figure out the consequences for higher education.

The demanding pressure led to a disordinated growth of schools with decreasing quality. One example: in 1960 there were 29 Medical Schools, in 1971, there were 73. It would be naive to assume that quality was kept at high standards. Quantity and quality in higher education do not walk hand in hand. It may also be mentioned that a great number of dropouts is a constant after the first and second semesters but even so, schools are full.

The issue quantity versus quality leads us to another point.

– exclusiveness

Is the Brazilian University exclusive? A linguistic debate could arise at this point. What is the meaning of exclusiveness?

Traditionally a "liberal" education, such as Law, Medicine, Philosophy, were the privilege of an "elite". Higher education was for those who could afford not having to struggle for life. To a certain extent it is still so.

But, an important fact must be taken into consideration. In Brazil we have public (government) and private schools at all levels. The first are free; the latter are rather expensive. However, being free, government universities maintain higher standards of teaching, research, and student achievement. Thus, the greatest demand is directed to the public universities, not only because they are free, but also because they have more prestige attached to the certificate they issue. And a quite unique paradox comes of this situation. Admission to universities is reached through very hard tests in which, for some areas, the ratio is 200 students for 1 vacancy. Students indicate their choices in a preferencial order (1, 2, 3). Of course the best ones get the first choise which is, almost always, a public university. And, of course, these students are, inevitably those who were best trained, attended best secondary schools, had family support, good housing, good health conditions et coetera. In short: best schools, free, are attended by the well-to-do. Poor students, if they want to have a higher education, have to pay for it. Research shows that it pays to do so, since a higher education certificate is demanded for a great number of jobs and, as a rule, achievement standards in private schools are lower, so it is easy to go in and come out legally qualified.

This is the moment to point out another issue – the quality of teaching and research in Brazilian Universities.

– quality

The fact that more and more students try to enter the universities leads, when human and material resources are not at hand, to lower standards of teaching and student achievement. It is not enough to think about areas of learning in which special equipments such as laboratories are required. It is not uncommon to find in many classrooms over 100 students. Even if special equipment is not required, methodological techniques will become formal and distant. Traditional lectures will prevail over dynamic methods.

Besides this overflowing of students, which makes good teachniques difficulty, it must be noted that a great number of students that pass the entrance tests are not really qualified.

This is an endless discussion in Brazilian higher education – the entrance examination – the "vestibular"[6], which is accused of not being effective in the sense that many capable students are not able to follow the university course. As a matter of fact teachers in the university often have to face the fact that their students lack the basic skills to follow the course he/she is enrolled in. Sometimes this sortcoming is dramatic – Portuguese syntax, basic Mathematics, Foreign languages. Teachers' reaction to this is sometimes surprising. To avoid confrontation they comply to the situation and offer remedial teaching, instead of teaching the subject matter they are expected to, they teach contents that should be known and belong to the secondary level. Otherwise, they lower their standards so students will not flunk. This is referred to by bad teachers "to teach according to our reality". No comments are needed.

The worst of the situation is when the problem extends beyond the undergraduate courses and reaches the graduated and post-graduated programs. Students, teachers and the University are caught in a game: undergraduate courses which are supposed to remediate secondary schools defficiencies and graduate that are expected to supply undergraduate defficiencies. There is no other consequence except low quality in teaching, research and professional training.

There are also, in such a context, political issues to be considered. From the sixties on there has been an increasing democratization in the school system in Brazil, specially in the higher levels. The fact that government universities are free reinforces that. This means to say that poor students may, if their achievement is good, attend the best schools in the country. But such schools demand full time dedication and not all students can afford that. Some teachers, then, lower their standards to allow poor students to pass through their courses. They call this "democratization". Of course this is a distortion of concept of democracy but on the same line we should have a look on resources for higher education.

– resources

A special law in Brazil determines that 12% of the national budget should be allocated for education[7]. It has not always been so. In fact, government institutions, when planning the national budget, set some political priorities. and the budget goes accordingly to them. Education is not always included. One could ask how come education is not a national priority in a developing country but this, as Kipling, would state, "is another story". The point is that education is viewed mostly as the school system, the building of schools or any other thing on this line: while other sectors such as high technology or basic health (which is part of education) or industrialization are more appealing. In the last few years though there has been a formal commitment on the part of the government

[6] *The vestibular is organized in systems, out of the university mainly in the big cities, independently managed. According to the student's score he/she may choose first, second or third option. An example of how this system is questioned is the fact that next year, 1988, three of the greatest Brazilian Universities have withdrawn from the system, stating that they will organize their own entrance tests.*

[7] *Law Calmon.*

to obey the law. But, of this 12% only a part goes to higher education. Basic education gets the majority of it, even if not always in the right way. Besides, higher education is an expensive investment and frequently it is viewed not as an investment but merely as "expenses".

The lack of resources affects both teaching and research. It is hard to have basic equipment for high level research which brings productivity of the system down. No need to seek examples in sophisticated equipment; it is enough to mention books. These are rare and expensive and no economic support is given for imports. An illustration this is the fact that the exchange of the US dollar for importing books is significantly higher than the official one. Furthermore there is a true bureaucratic barrier for everything that requires importation and anyone who wants to face it shall be involved in a kafkian affair.

Next step on the chain of our analysis, in connexion with the lack of resources, is the administrative problem.

– administrative control – centralization

Brazil has always had in its school system a strong tendency to be centralized. Not only was this a "sine qua" condition for colonies to have schools but also centralization and uniformity were the trade marks of Jesuit Catholic education. In fact, the first efforts to de-centralize the school system came after the thirties with reflections of the New School Movement. Concerning higher education though a great decentralization was experienced in Brazil in 1915 with an education reform inspired by French Positivism[8]. However this law simply abolished any kind of state control of higher education and its effects were catastrophic. Reaction came soon and up to this day there is a sort of suspicion regarding excessive decentralization, particularly in what concerns the public universities. There seems to be a feeling in the public and administration regarding the need of control of public resources.

Though basic laws are the same (minimum curriculum, average amount of credits, etc) the private system has a greater independence.

This is an endless discussion – the so-called autonomy of universities. Which has nothing to do, as it would seem at first sight, with academic freedom. The freedom to teach is complete. No control is exerted over subject or methods. The teacher is the only one responsible for his/her teaching. But government schools have to submit their budget to the Ministry of Education or State Secretaries, according to their administrative status and their autonomy is, of course, severely hampered. Being free they have a hard time to distribute the money they from the government. Besides, budget proposals are present in advance and what may happen is that some good opportunities (hiring visiting professors, conducting special researches) are lost because they could not be predicted on the proposal.

[8] *This law is know as Rivadávia Correa, Minister of State who promoted it. French Positivism, spread in Brazil at the end of the 19th and beginning of the 20th centuries, was the first symptom of liberalism. The thought of Auguste Comte inspired the proclamation of the Republic (1889) and the ceasing of slavery (1888).*

These restrictions on the so-called autonomy reach all fields such as monetary restrictions on having university personnel attending conferences, publishing and so on.

When doing the research study on higher education in Brazil we found some difficulties. Not only many critical aspects were brought to light but it was also difficult to classify them: whether the phenomena were cause or consequence or what were their origins. So, the manner they are listed in this paper does not mean a hierarchy. We simply selected those which seemed more important in the Brazilian context.

4. HIGHER EDUCATION IN BRAZIL AND THE WORLD OF WORK

Brazilian society, from the point of view of the world of work and its relation to higher education is affected by two main diseases "bacheloritis" and "doctoritis" – a distorted surplus of academic titles, with no productive function. Let us try to clarify this, if possible.

From what has been set forth in this paper it has become clear, we hope, that higher education in the academic traditional view, is not connected at once with the world of work, if the expression "world of work" is to be related to jobs and trades. It has been so in almost all Latin American countries, mainly in those of Spanish or Portuguese colonization. Such a state of affairs was a reprodution of the European catholic educational model which tied higher education to the "liberal arts". So, the rich would not need to work and their children and youth would attend European universities and become doctors. They would bring back academic titles which would add to their social prestige but not enable them to work, since this was not neccessary.

Furthermore, since Brazil was a very large country, 8,511,000 km², it seemed to the colonizers that all riches would come from agriculture. Even the discovery and exploitation of gold and precious stories, later on, did not change the "land" feature. Farming and cattle raising were the economical hopes and the "bachelors" and "doctors" would put their titles in a drawer and begin to manage their farms and estates.

Second World War would be the landmark in the shifting from agriculture to industry. Of course this meant the end of a way of living on the big estates and its management was also drastically changed. The need of producing articles that were formerly imported, manpower brought in by immigrants (specially the Jewish who developed commerce) and the interruption of a continuous trade flux with Europe were some important factors. Fast growing industries, some of them developing into huge complexes, changed completely not only the country's economy, but a whole lifestyle. Cities arose, others changed from villages to metropolis, and the suburbs of the great cities, such as Rio de Janeiro and São Paulo, became overpopulated and the social problems arose. Migration is one of them. Cities are full of people who left their lands and want to work but are not prepared to face the labor market, which is specialized, and to some extent, sophisticated. On one side it cannot absorb unqualified manpower, on the other it offers many jobs.

This gap between refined professional opportunities and the unqualified worker should be filled by education. Naturally, not necessarily higher education. There are, in the school system the technical schools for commerce and industry[9] *and even the regular school gives some introduction to the world of work through what is called "professionalizing" teaching. However schools are not equipped and generally this kind of teaching is reduced to a mere formality. On the other hand, school certificates are highly valued by laws and society and almost everybody wants to have them. Evening-schools or "week-end" (low quality) courses offer them at reasonable prices.*

What is the behavior of universities in all this?

Universities are supposed to provide the labor market with highly qualified professionalists. This means to say long-term (4 to 6 years) courses, full-time. Obviously, those who need to work are excluded. But an academic title is still an attraction even if it brings no job with it. The "liberal arts" are still the destination of middle and high class youth even though they do not find jobs to suit them or their professional title.

The Government (Federal and State) has tried to change this state of affairs promoting technical courses but thus for has been ineffective. What happens is that business enterprises train or re-train the professionalist they need, which, of course, is very expensive. In short, it is squandering time and money.

Summarizing: universities are still far from the world of work.

What strategies could be suggested?

5. STRATEGIES

Thus for this paper depicts a somewhat pessimistic picture of higher education in Brazil and its relation to the world of work. But, what we aimed at, till this moment, was to point out the critical aspects, those delicate problems which are to be found in fast developing nations such as Brazil. This does not mean that those responsible for educational policies are indifferent or just carry on the fulfillment of legal requirements independently of criticism. As mentioned earlier, Brazil is a large country with very distinct regional differences, and, as a consequence, irregular development. Thus, in planning or suggesting strategies some guidelines, it seems to us, must be obeyed.

One is that any suggestion or recommendation must aim at the general feature of the problem, its implementation having to obey specific characteristics. For instance, one can recommend a raising of teacher's salaries all over the country but not fix an amount for all the country; the regional labor market should be considered.

Policies and strategies are tied to Philosophy and this is the essence of the political character of education. Bernard Charlot[10] *expressed this philosophical*

[9] *SENAC (Serviço Nacional de Aprendizagem Comercial) and SENAI (Serviço Nacional de Aprendizagem Industrial).*

[10] *CHARLOT, B. – La Mystification Pédagogique. Paris, Payot, 1977.*

political trait of education in a very expressive way. He states that education is politic since it maintains political "models", forms personality, spreeds political ideas and is carried on by the schools, social institutions. So, if we aim at a discussion of higher education in developing societies we have to place it in the political setting and the suggestion of guidelines has to go accordingly. In other words: what is the philosophy of higher education? What are its aims? How are they best attained?

According to the law, and in Brazil social context, higher education is the terminal level in a broad sense of the expression. Thus, it should fulfill its destination of a high level of professional training and of accomplishment in terms of "finishing" the adult personality. It has, therefore, a deep human and social sense. How deep is this related to the world of work?

The definition of policies and strategies for higher education is conditioned not only by its objectives but also by the greater or lesser degree of difficulty in attaining them. When commenting on the role of higher education we already outlined some of the obstacles found in developing nations for carrying on teaching and research to a full extent. We shall go back to them for the suggestion of strategies.

– orderly growth and dissemination of schools

We have to commend the efforts that the Brazilian government has devoted, in the last years, to discourage or extinguish low-quality schools. Supervising of goverment and private universities, requiring high standards in order to open new schools, and the control of a minimum time-schedule for classes are some of the weapons used against the spreading of new higher education schools. A recommended strategy, besides the reinforcement of the above mentioned actions, is the prohibition of opening new schools if solid research does not indicate its necessity.

– support of technical schools

An efficient means of lowering the demand for university courses is no doubt, the encouraging of technical schools. They have the advantage of not demanding the same duration of university courses and providing their students with defined and specialized professional training. Up to now the government has not been successful in this. Technical schools do not have the same social prestige as that of universities and this should be quickly changed. In fact, in fast changing societies the natural link between the school and world of work is the technical school. The offer of such schools by the government is still low[11] and the preparation of the young for facing the issue of survival and the requirements of the labor market is still a problem.

[11] *See note about SENAC and SENAI.*

– strengthen the relationship between university and society

In fast developing nations universities should play a dynamic role in society and not just be an ivory tower. In the last years a certain concern has been given to this problem, administrators trying to focus their attention in what is called in Brazil "extension" activities.

It is not uncommon to find, in Brazil, universities with schools of Medicine, Architecture, Law, Education, in areas where slums are nearby, with the population needing all the basic services in those fields. Or, even if located in developed areas they do not extend their services to the community or to society as a whole.

All universities, as mentioned earlier, are working on this area. As an example we could mention the Federal University of Rio de Janeiro (UFRJ), whose main field in Rio is situated in one of the most deprived urban areas of the city. A big extension project is being carried on in which urbanistic assistance for house-building is provided; basic health care is offered, among other support.

– support of teachers

Higher education teachers in Brazil are trained at the University level. Usually they undertaken post-graduate work in order to progress in their field. Under the circumstances one can confirm that they have a fairly good professional training. At least this is valid in theory. The reality they deal with in the Faculties of Education and in pre-service is not the same they shall face when working in the field. The gap should be filled by in-service training or retraining which is not done.

Being the ones mainly responsible for efficient teaching they lack efficient teaching (in the broad sense) themselves. Besides, they are not suites to cope with the speed with which reality is changing. So, more effective assistance should be offered to teachers. Encouraging participation in courses, conferences, up-dating projects are some useful strategies; regular in-service training should be another one.

Facilitation or help (not necessary only financial) for study tours, purchase of books, subscription of journals, publishing and so on should be offered also. This could be done as special discounts or bonuses, for instance. Another efficient strategy could be the exchange of equipment (audiovisuals for one) between institutions to give the teacher more opportunities.

Salary raising also would not be the least important. Teachers, mainly those of the private schools, have to run from one school to the other in order to survive economically. As a consequence they are not enthusiastic about involving their students in research (study tours, technical visits, excursions, field observations).

– *consultancy*

If the universities are not working satisfactorily in response to the demands of the world of work one reason for this could be that teachers and administrators are not well informed as to the changes occuring. On the other side, society frequently ignores what is going on in the academic world. The echange of experts in a consultancy system would remedy that. Mutual feedback seems a requirement for efficient interacion of the two system: academic and work.

6. CONCLUSION

In our research work, whose findings in Brazil we tried to summarize in a somewhat critical way in this paper, a general feature of the situation of the University and the world of work can be outlined.

6.1. Characteristics

6.1.1. There is low interaction between the academic world and the world of work

6.1.2. Universities follow a sort of formal pattern while society is changing very fast and dinamically

6.1.3. Universities have been inflexible, distant from the real community needs

6.1.4. Educational models in developing countries have been plainly transplanted; not responding to the culture in which schools are inserted

6.1.5. The patterns used for training teachers are not fit to meet the needs of the world of work.

6.2. Strategies

6.2.1. Technical schools already in use should receive stronger support from the government and new ones should be encouraged

6.2.2. Mutual channels of information from-to universities and the labor market should be established

6.2.3. More attention should be given to the preparation of teachers and they should receive encouragement for up-dating and recycling projects, mainly in-service training

6.2.4. Efforts should be made in order to abolish the barrier between the "academic" world and the world of "work".

Most of the strategies recommended have already been adopted by government and private administrators, but their effects are not yet so powerful as to change the Brazilian educational scenario. A reinforcement or a more dynamic implementation is desirable.

The responsibility for change stands of course with the government, but, all other social agencies should not just sit and wait. The business community, representatives of the labor market, educators in general, administrators and, last but not least, teachers should work together and change this so a country like Brazil could have the dynamic education it deserves and is required by modern developed societies.